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C09-050 Continuous Disreefing Method for Parachute Opening

Testing, Flight and Ground

C09-118 Noninvasive Measurement of Velocity, Pressure, and Temperature in Unseeded Supersonic Air Vortices
C09-199 Design and Testing of a Multi-Element Airfoil for Short-Takeoff-and-Landing Ultralight Aircraft
C09-175 Flutter Margins for Multimode Unstable Couplings with Associated Flutter Confidence
C09-127 Reynolds Number Scaling Effects on the European High-Lift Configurations
C09-101 Application of a Pendulum Support Test Rig for Aircraft Stability Derivative Estimation
C09-162 Drag Extrapolation to Higher Reynolds Number
C09-231 Design and Testing of a Fiber-Metal-Laminate Bird-Strike-Resistant Leading Edge
C09-086 Optimized Measurements of Unmanned-Air-Vehicle Mass Moment of Inertia with a Bifilar Pendulum
C09-090 Structural Analysis and Testing of an Ultralight Unmanned-Aerial-Vehicle Carbon-Composite Wing
C09-115 Assessment of Uncertain External Store Aerodynamics Using mu-p Flutter Analysis
C09-210 Real-Time Dynamic Modeling: Data Information Requirements and Flight-Test Results
C09-013 Characterizing Stability and Control of Subscale Aircraft from Wind-Tunnel Dynamic Motion
C09-039 Overview of the Cranked-Arrow Wing Aerodynamics Project International

Uninhabited and Unmanned Air Vehicles

C09-192 Unmanned Air Vehicle Wing-Tip Corona Nonlinear Effect on Atmospheric Electric Field Measurements
C09-202 Effects of Surface Flats on the Performance of a Remotely Piloted Aircraft
C09-205 Guidance, Navigation, and Control System Design for Tripropeller Vertical-Take-Off-and-Landing Unmanned-Air-Vehicle
C09-200 Flight Dynamics of High Aspect-Ratio Flying Wings: Effect of Large Trim Deformation
C09-088 Vibration and Flutter Characteristics of a Folding Wing
C09-158 Surface Streamlines and Normal-to-Plane Motion Adjacent to a Delta-Wing Planform
C09-109 Magnitude of Corona Current Caused by Aircraft Net Charge
C09-090 Structural Analysis and Testing of an Ultralight Unmanned-Aerial-Vehicle Carbon-Composite Wing
C09-113 Design of an Electric Propulsion System for a Quadrotor Unmanned Aerial Vehicle
C09-107 Experimental Investigation of Annular Wing Aerodynamics
C09-057 New Electric Field Computation Method for Aircraft
C09-076 Comparison of Theoretical Structural Models with Experiment for a High-Aspect-Ratio Aeroelastic Wing
C09-035 Numerical Optimization of Airfoils in Low Reynolds Number Flows
C09-092 Three-Dimensional Obstacle Avoidance Strategies for Uninhabited Aerial Systems Mission Planning and Replanning
C09-215 Comparison of Design Methods for Fuel-Cell-Powered Unmanned Aerial Vehicles

Vibration

C09-181 Identification of a Nonlinear Wing Structure Using an Extended Modal Model
C09-061 Supersonic Flutter of Functionally Grated Panels Subject to Acoustic and Thermal Loads
C09-217 Active Control of Smart Fin Model for Aircraft Buffeting Load Alleviation Applications
C09-216 Computational Investigation of Gurney Flap Effects on Rotors in Forward Flight
C09-051 Lateral Stability of Aircraft Nose-Wheel Landing Gear with Closed-Loop Shimmy Damper
C09-152 Nonlinear Reduced-Order Analysis with Time-Varying Spatial Loading Distributions

Weather Hazards

C09-212 Design and Optimization Method for Inertial Particle Separator Systems
C09-180 Multistep Results in ICECREMO2
C09-156 Statistics of Atmospheric Gust Patterns Expressed in Terms of Energy and Entropy
C09-182 Nonlinear Aircraft Loads in Severe Atmospheric Turbulence

COMPUTING, INFORMATION, AND COMMUNICATION

Aerospace Electronics

C09-057 New Electric Field Computation Method for Aircraft
C09-109 Magnitude of Corona Current Caused by Aircraft Net Charge

Artificial Intelligence Systems

C09-208 Knowledge-Based Engineering Approach to Support Aircraft Multidisciplinary Design and Optimization
C09-193 Neural Network Modeling of Lateral Pilot Landing Control

ATC Systems

C09-189 Three-Degree Decelerating Approaches in High-Density Arrival Streams
C09-226 Collision Detection System Based on Differential Carrier-Phase Global Positioning System Broadcasts
C09-220 Solution-Space-Based Complexity Analysis of the Difficulty of Aircraft Merging Tasks

ENERGY

Conservation

C09-081 Promising Benefits of an Active-Extrados Morphing Laminar Wing

Fuel Cells

C09-027 Analysis of Solid Oxide Fuel Cell Systems for More-Electric Aircraft

Fuel Economy

C09-014 Impact of the Reduced Vertical Separation Minimum on the Domestic United States
C09-150 Simulation Framework for Aircraft Power System Architecting

Microwaves

C09-052 Conceptual Design Considerations for Microwave- and Solar-Powered Fuel-Less Aircraft

Solar Power

C09-222 Dynamic Response of a High-Altitude Tethered Balloon System
C09-052 Conceptual Design Considerations for Microwave- and Solar-Powered Fuel-Less Aircraft

FLUID DYNAMICS

Aeroacoustics

C09-152 Nonlinear Reduced-Order Analysis with Time-Varying Spatial Loading Distributions
C09-177 Flow Past a Yawed Rectangular Cavity in Transonic and Low Supersonic Flows
C09-049 Improved Accuracy, Second-Order Response Model for Pressure Sensing Systems
C09-145 Passive Control of the Flow Around the Stratospheric Observatory for Infrared Astronomy
C09-167 Numerical Investigation on Blade/Wake-Interaction Noise Generation
C09-201 Effect of Mictrotab on Reduction of Noise Due to Aircraft High-Lift Devices
C09-209 Sonic Boom Variability Due to Homogeneous Atmospheric Turbulence
C09-004 National Transonic Facility Model and Tunnel Vibrations

Boundary Layers and Heat Transfer-Turbulent

C09-232 Heat Transfer and Pressure Measurements on a Thick Airfoil
C09-028 Commercial Aircraft Exterior Cleaning Optimization

Boundary-Layer Stability and Transition

C09-168 Evaluation of Computations and Transition Prediction Method for Aircraft High-Lift Configuration
C09-131 Automatic Transition Prediction in Hybrid Flow Solver, Part 1: Methodology and Sensitivities
C09-132 Automatic Transition Prediction in Hybrid Flow Solver, Part 2: Practical Application

Computational Fluid Dynamics

C09-100 Self-Adaptive Upwinding for Large Eddy Simulation of Turbulent Flows on Unstructured Elements
C09-060 Optimization of Flapping Motion Parameters for Two Airfoils in a Biplane Configuration
C09-066 Robust Aerodynamic Design Optimization Using Polynomial Chaos
C09-079 Simulation of Heat Transfer from Hot-Air Jets Impinging a Three-Dimensional Concave Surface
C09-218 Industrial Computational Fluid Dynamics Tools for the Evaluation of Aerodynamic Coefficients
C09-021 Thickness Effect on the Thrust Generation of Heaving Elliptic Airfoils
C09-073 Stowability Constraint Within a Two-Dimensional Aerodynamic Optimization Method
C09-053 Numerical Study of High-Resolution Scheme Based on Preconditioning Method
C09-213 Parametric Study of an Axisymmetric Busemann Biplane Configuration
C09-230 Prediction of Wall Pressure Fluctuation over a Backward-Facing Step Using Detached Eddy Simulation
C09-143 Detached-Eddy Simulation of a Wing Tip Vortex at Dynamic Stall Conditions
C09-087 Two-Level Multifidelity Design Optimization Studies for Supersonic Jets
C09-023 Numerical Simulations of a Wingtip Vortex in the Near Field
C09-102 Grid Quality and Resolution Issues from the Drag Prediction Workshop Series
C09-146 Aerodynamic Analysis of a Generic Fighter Using Delayed Detached-Eddy Simulation
C09-153 Numerical Investigation of Circulation Control Airfoils
C09-167 Numerical Investigation on Blade/Wake-Interaction Noise Generation
C09-224 Overset Euler/Boundary-Layer Solver with Panel-Based Aerodynamic Modeling for Aeroelastic Applications
C09-198 Numerical Analysis on Aerodynamic Force Generation of Biplane Counter-Flapping Flexible Airfoils
C09-145 Passive Control of the Flow Around the Stratospheric Observatory for Infrared Astronomy
C09-148 Active Flow Control for Practical High-Lift Systems
C09-180 Multistep Results in ICECREMO2
C09-132 Automatic Transition Prediction in Hybrid Flow Solver, Part 2: Practical Application
C09-194 Three-Dimensional Aerodynamic Simulations of Jumping Paratroopers and Falling Cargo Payloads
C09-126 Numerical and Mesh Resolution Requirements for Accurate Sonic Boom Prediction
C09-043 Reynolds-Averaged Navier–Stokes Solutions for the CAWAPI F-16XL Using Different Hybrid Grids
C09-117 Multipoint Optimization of a Short-Range Quiet Passenger Aircraft
C09-131 Automatic Transition Prediction in Hybrid Flow Solver, Part 1: Methodology and Sensitivities
C09-168 Evaluation of Computations and Transition Prediction Method for Aircraft High-Lift Configuration
C09-064 Computational Modeling of Variable-Droop Leading Edge in Forward Flight
C09-054 Comparative Study of Three-Dimensional Wing Drag Minimization by Different Optimization Techniques
C09-015 Advanced Design by Numerical Methods and Wind-Tunnel Verification Within European High-Lift Program
C09-041 Comparison of Measured and Block Structured Simulation Results for the F-16XL Aircraft
C09-040 F16-XL Geometry and Computational Grids Used in Cranked-Arrow Wing Aerodynamics Project International
C09-221 Computational Study of Flexible Wing Ornithopter Flight
C09-239 Improved Iteration Algorithm for Nonlinear Vortex Lattice Method
C09-042 Standard Unstructured Grid Solutions for Cranked Arrow Wing Aerodynamics Project International F-16XL
C09-197 Prediction of Helicopter Maneuver Loads Using a Fluid-Structure Analysis
C09-201 Effect of Mictrotab on Reduction of Noise Due to Aircraft High-Lift Devices
C09-211 Three-Dimensional Aerodynamic Design of Low-Wave-Drag Supersonic Biplane Using Inverse Problem Method

Hydrodynamics

C09-056 Hydraulic Jump Formation in Water Sloshing Within an Oscillating Tank

Inlet, Nozzle, Diffuser, and Channel Flows

C09-019 Aerodynamic Design of a Supersonic Inlet with a Parametric Bump
C09-212 Design and Optimization Method for Inertial Particle Separator Systems

Jets, Wakes, and Viscid-Inviscid Flow Interactions

C09-017 Transport Aircraft Wake Influenced by Oscillating Winglet Flaps
C09-079 Simulation of Heat Transfer from Hot-Air Jets Impinging a Three-Dimensional Concave Surface
C09-026 Identification of Any Aircraft by Its Unique Turbulent Wake Signature
C09-114 Flowfield of a Forward-Facing Shaped-Charge Cavity
C09-096 Flow Measurements in a Short Takeoff, Vertical Landing Fountain: Splayed Jets

Multiphase Flows

C09-056 Hydraulic Jump Formation in Water Sloshing Within an Oscillating Tank

Separated Flows

C09-230 Prediction of Wall Pressure Fluctuation over a Backward-Facing Step Using Detached Eddy Simulation
C09-114 Flowfield of a Forward-Facing Shaped-Charge Cavity
C09-164 Bubble Burst Control for Stall Suppression on a NACA 631-012 Airfoil
C09-177 Flow Past a Yawed Rectangular Cavity in Transonic and Low Supersonic Flows
C09-032 Effect of Taper Ratio on Aerodynamic Performance of Cropped Nonslender Delta Wings
C09-029 Flow Control of an Airfoil via Injection and Suction
C09-145 Passive Control of the Flow Around the Stratospheric Observatory for Infrared Astronomy

Shock Waves and Detonations

C09-209 Sonic Boom Variability Due to Homogeneous Atmospheric Turbulence
C09-213 Parametric Study of an Axisymmetric Busemann Biplane Configuration

Subsonic Flow

C09-157 Basic Induced Drag Study of the Joined-Wing Aircraft
C09-073 Stowability Constraint Within a Two-Dimensional Aerodynamic Optimization Method
C09-031 Analytic Drag Prediction for Cambered Wings with Partial Leading Edge Suction
C09-106 Influence of Layer Thickness on the Design of Rapid-Prototyped Models
C09-202 Effects of Surface Flats on the Performance of a Remotely Piloted Aircraft

Supersonic Flow

C09-195 New Supersonic Wing Far-Field Composite-Element Wave-Drag Optimization Method
C09-213 Parametric Study of an Axisymmetric Busemann Biplane Configuration
C09-211 Three-Dimensional Aerodynamic Design of Low-Wave-Drag Supersonic Biplane Using Inverse Problem Method
C09-209 Sonic Boom Variability Due to Homogeneous Atmospheric Turbulence
C09-126 Numerical and Mesh Resolution Requirements for Accurate Sonic Boom Prediction

Transonic Flow

C09-110 Assessment of Passive Flow Control for Transonic Cavity Flow Using Detached-Eddy Simulation
C09-012 High-Altitude Limit Cycle Flutter of Transonic Wings
C09-099 Shock Effects on Delta Wing Vortex Breakdown
C09-183 Investigation of Unswept Normal Shock Wave/Turbulent-Boundary-Layer Interaction Control
C09-033 Comparison of Conventional and Compression Pylon Designs for an Underwing Nacelle
C09-044 Lessons Learned from Numerical Simulations of the F-16XL Aircraft at Flight Conditions
C09-002 Aerodynamic Investigations of an Advanced Over-the-Wing Nacelle Transport Aircraft Configuration

Unsteady Flows

C09-110 Assessment of Passive Flow Control for Transonic Cavity Flow Using Detached-Eddy Simulation
C09-142 Unsteady Aerodynamic Coefficients Obtained by a Compressible Vortex Lattice Method
C09-119 Unsteady Airfoil with Dynamic Leading- and Trailing-Edge Flaps
C09-230 Prediction of Wall Pressure Fluctuation over a Backward-Facing Step Using Detached Eddy Simulation
C09-021 Thickness Effect on the Thrust Generation of Heaving Elliptic Airfoils
C09-068 Numerical and Experimental Analysis of a Generic Fan-in-Wing Configuration
C09-243 Impulsively Started Flat Plate Flow
C09-124 Transport Wing Flutter Model Transonic Limit Cycle Oscillation Test
C09-143 Detached-Eddy Simulation of a Wing Tip Vortex at Dynamic Stall Conditions
C09-187 Theoretical Predictions of F-16 Fighter Limit Cycle Oscillations for Flight Flutter Testing
C09-146 Aerodynamic Analysis of a Generic Fighter Using Delayed Detached-Eddy Simulation
C09-169 Delta Wing Vortex-Burst Behavior Under a Dynamic Freestream
C09-167 Numerical Investigation on Blade/Wake-Interaction Noise Generation
C09-177 Flow Past a Yawed Rectangular Cavity in Transonic and Low Supersonic Flows
C09-047 Propulsive Force of a Flexible Flapping Thin Airfoil
C09-004 National Transonic Facility Model and Tunnel Vibrations
C09-114 Flowfield of a Forward-Facing Shaped-Charge Cavity
C09-203 Dye Visualization of the Flow Structure over a Yawed Nonslender Delta Wing
C09-239 Improved Iteration Algorithm for Nonlinear Vortex Lattice Method
C09-064 Computational Modeling of Variable-Droop Leading Edge in Forward Flight

Vortices

C09-233 Behaviors of Vortex Wake in Random Atmospheric Turbulence
C09-017 Transport Aircraft Wake Influenced by Oscillating Winglet Flaps
C09-118 Noninvasive Measurement of Velocity, Pressure, and Temperature in Unseeded Supersonic Air Vortices
C09-169 Delta Wing Vortex-Burst Behavior Under a Dynamic Freestream
C09-243 Impulsively Started Flat Plate Flow
C09-023 Numerical Simulations of a Wingtip Vortex in the Near Field
C09-099 Shock Effects on Delta Wing Vortex Breakdown
C09-161 Aerodynamic Characteristics of Forward and Aft Swept Arrow Wings
C09-155 Eulerian Simulation of the Fluid Dynamics of Helicopter Brownout
C09-078 Vortex Wake Generated Behind a Forward Swept Wing
C09-044 Lessons Learned from Numerical Simulations of the F-16XL Aircraft at Flight Conditions
C09-043 Reynolds-Averaged Navier–Stokes Solutions for the CAWAPI F-16XL Using Different Hybrid Grids
C09-003 State-Space Modeling and Identification of Delta Wing Vortex-Coupled Roll Dynamics
C09-025 Experimental Investigation of Plain- and Flapped-Wing Tip Vortex
C09-077 Aircraft Wake Vortex Scenarios Simulation Package for Takeoff and Departure
C09-203 Dye Visualization of the Flow Structure over a Yawed Nonslender Delta Wing
C09-042 Standard Unstructured Grid Solutions for Cranked Arrow Wing Aerodynamics Project International F-16XL
C09-045 Investigation of the Propeller Slipstream with Particle Image Velocimetry

Wave Motion and Sloshing

C09-056 Hydraulic Jump Formation in Water Sloshing Within an Oscillating Tank

GUIDANCE, CONTROL, AND DYNAMICS TECHNOLOGY

Aircraft Dynamics

C09-160 Sensor Emplacement on Vertical Surfaces for a Biologically Inspired Morphing from Bats
C09-086 Optimized Measurements of Unmanned-Air-Vehicle Mass Moment of Inertia with a Bifilar Pendulum
C09-106 Influence of Layer Thickness on the Design of Rapid-Prototyped Models
C09-218 Industrial Computational Fluid Dynamics Tools for the Evaluation of Aerodynamic Coefficients
C09-240 Lateral Stability of High Wing Configurations
C09-089 Nonlinear Ten-Degree-of-Freedom Dynamics Model of a Generic Hypersonic Vehicle
C09-003 State-Space Modeling and Identification of Delta Wing Vortex-Coupled Roll Dynamics

Aircraft Guidance

C09-165 Real-Time Flight Trajectory Optimization and its Verification in Flight
C09-226 Collision Detection System Based on Differential Carrier-Phase Global Positioning System Broadcasts

Aircraft Stability and Control

C09-059 Characteristic Length and Dynamic Time Scale Associated with Aircraft Pitching Motion
C09-071 Pitch Handling Qualities Investigation of the Tailless Gull-Wing Configuration
C09-178 Modeling Pilot Control Behavior with Sudden Changes in Vehicle Dynamics

C09-163 Stability and Flying Qualities of an Unmanned Airplane Using the Vortex-Lattice Method
C09-016 Handling Qualities Evaluation of an Autogiro Against the Existing Rotorcraft Criteria
C09-030 Development of Stable Automated Cruise Flap for an Aircraft with Adaptive Wing
C09-210 Real-Time Dynamic Modeling: Data Information Requirements and Flight-Test Results

Control System Design

C09-205 Guidance, Navigation, and Control System Design for Tripropeller Vertical-Take-Off-and-Landing Unmanned-Air-Vehicle

Control System Effectors

C09-034 Development of a Piezohydraulic Active Pitch Link for a Swashplateless Helicopter Rotor

Flight Displays

C09-140 Improving Precision Vertical Flight Operations through a Direct-Perception—Action Display

Flight Mechanics

C09-071 Pitch Handling Qualities Investigation of the Tailless Gull-Wing Configuration
C09-170 Elastic Multibody Models of Transport Aircraft High-Lift Mechanisms
C09-200 Flight Dynamics of High Aspect-Ratio Flying Wings: Effect of Large Trim Deformation
C09-206 Aircraft Parameter Estimation Experiment Design Considering Measurement Colored Residuals

Handling Qualities

C09-071 Pitch Handling Qualities Investigation of the Tailless Gull-Wing Configuration
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C09-163 Stability and Flying Qualities of an Unmanned Airplane Using the Vortex-Lattice Method
C09-178 Modeling Pilot Control Behavior with Sudden Changes in Vehicle Dynamics

Optimization Techniques

C09-080 Wing Planform Design Optimization for Reusable Launch Vehicle
C09-060 Optimization of Flapping Motion Parameters for Two Airfoils in a Biplane Configuration
C09-066 Robust Aerodynamic Design Optimization Using Polynomial Chaos
C09-036 Cooperative Task Assignment/Path Planning of Multiple Unmanned Aerial Vehicles Using Genetic Algorithm
C09-054 Comparative Study of Three-Dimensional Wing Drag Minimization by Different Optimization Techniques
C09-165 Real-Time Flight Trajectory Optimization and its Verification in Flight

State Estimation

C09-185 Unscented Kalman Filtering for Reentry Vehicle Identification in the Transonic Regime

Structural Control

C09-051 Lateral Stability of Aircraft Nose-Wheel Landing Gear with Closed-Loop Shimmy Damper

System Identification

C09-139 System Identification of a Miniature Helicopter
C09-185 Unscented Kalman Filtering for Reentry Vehicle Identification in the Transonic Regime
C09-013 Characterizing Stability and Control of Subscale Aircraft from Wind-Tunnel Dynamic Motion
C09-112 In-Flight Estimation of Helicopter Gross Weight and Mass Center Location
C09-210 Real-Time Dynamic Modeling: Data Information Requirements and Flight-Test Results

Trajectory Optimization

C09-165 Real-Time Flight Trajectory Optimization and its Verification in Flight
C09-235 Optimization of Rotorcraft Simultaneous Noninterfering Noise Abatement Approach Procedures
C09-065 Three-Dimensional Trajectory Optimization in Constrained Airspace
C09-036 Cooperative Task Assignment/Path Planning of Multiple Unmanned Aerial Vehicles Using Genetic Algorithm
C09-133 Field Evaluation of the Tailored Arrivals Concept for Datalink-Enabled Continuous Descent Approach

UAVs

C09-236 Lateral Stability and Control of a Tailless Aircraft Configuration
C09-160 Sensor Emplacement on Vertical Surfaces for a Biologically Inspired Morphing from Bats
C09-139 System Identification of a Miniature Helicopter
C09-163 Stability and Flying Qualities of an Unmanned Airplane Using the Vortex-Lattice Method
C09-092 Three-Dimensional Obstacle Avoidance Strategies for Uninhabited Aerial Systems Mission Planning and Replanning
C09-036 Cooperative Task Assignment/Path Planning of Multiple Unmanned Aerial Vehicles Using Genetic Algorithm
C09-086 Optimized Measurements of Unmanned-Air-Vehicle Mass Moment of Inertia with a Bifilar Pendulum

INTERDISCIPLINARY TOPICS

Aerospace Management

C09-063 Graphical Techniques for Managing Field Failures of Aircraft Systems and Components

Analytical and Numerical Methods

C09-196 Numerical Evaluation of Limit Cycles of Aeroelastic Systems
C09-049 Improved Accuracy, Second-Order Response Model for Pressure Sensing Systems
C09-179 Conceptual Design Prediction of the Buffet Envelope of Transport Aircraft
C09-038 H Flutter Analysis: A Direct Harmonic Interpolation Method
C09-057 New Electric Field Computation Method for Aircraft

Atmospheric and Space Sciences

C09-182 Nonlinear Aircraft Loads in Severe Atmospheric Turbulence
C09-195 New Supersonic Wing Far-Field Composite-Element Wave-Drag Optimization Method
C09-156 Statistics of Atmospheric Gust Patterns Expressed in Terms of Energy and Entropy

Environmental Effects

C09-077 Aircraft Wake Vortex Scenarios Simulation Package for Takeoff and Departure
C09-122 Modeling of Terminal-Area Airplane Fuel Consumption
C09-123 Analysis of Departure and Arrival Profiles Using Real-Time Aircraft Data

Human Factors

C09-220 Solution-Space-Based Complexity Analysis of the Difficulty of Aircraft Merging Tasks
C09-140 Improving Precision Vertical Flight Operations through a Direct-Perception—Action Display
C09-178 Modeling Pilot Control Behavior with Sudden Changes in Vehicle Dynamics
C09-193 Neural Network Modeling of Lateral Pilot Landing Control

Lasers and Laser Applications

C09-154 Development of an Onboard Doppler Lidar for Flight Safety
C09-118 Noninvasive Measurement of Velocity, Pressure, and Temperature in Unseeded Supersonic Air Vortices

Multidisciplinary Design Optimization

C09-214 Multidisciplinary Code Coupling for Analysis and Optimization of Aeroelastic Systems
C09-219 Improved Representation of High-Lift Devices for a Multidisciplinary Conceptual Aircraft Design Process
C09-087 Two-Level Multifidelity Design Optimization Studies for Supersonic Jets
C09-147 Optimizing Electric Propulsion Systems for Unmanned Aerial Vehicles
C09-097 Multidisciplinary Optimization Method for Designing Boundary-Layer-Ingesting Inlets
C09-054 Comparative Study of Three-Dimensional Wing Drag Minimization by Different Optimization Techniques
C09-117 Multipoint Optimization of a Short-Range Quiet Passenger Aircraft
C09-062 Design of Composite Wings Including Uncertainties: A Probabilistic Approach
C09-024 Optimal Placement of Piezoelectric Actuated Trailing-Edge Flaps for Helicopter Vibration Control
C09-009 Optimization of Propeller Based Propulsion System
C09-208 Knowledge-Based Engineering Approach to Support Aircraft Multidisciplinary Design and Optimization

Reliability, Maintainability, and Logistics Support

C09-063 Graphical Techniques for Managing Field Failures of Aircraft Systems and Components
C09-227 Optimization of Distribution Parameters for Estimating Probability of Crack Detection
C09-028 Commercial Aircraft Exterior Cleaning Optimization

Research Facilities and Instrumentation

C09-049 Improved Accuracy, Second-Order Response Model for Pressure Sensing Systems Safety
C09-001 Improvement of Aircraft Accident Investigation Through Expert Systems
C09-077 Aircraft Wake Vortex Scenarios Simulation Package for Takeoff and Departure

LAUNCH VEHICLE AND MISSILE (LV/M) TECHNOLOGY

Aerodynamics

C09-053 Numerical Study of High-Resolution Scheme Based on Preconditioning Method

Configuration Design

C09-089 Nonlinear Ten-Degree-of-Freedom Dynamics Model of a Generic Hypersonic Vehicle

PROPULSION

Airbreathing Propulsion

C09-019 Aerodynamic Design of a Supersonic Inlet with a Parametric Bump
C09-129 Catastrophe Model for Supersonic Inlet Start/Unstart

Electric Propulsion

C09-113 Design of an Electric Propulsion System for a Quadrotor Unmanned Aerial Vehicle

Emissions and Noises

C09-122 Modeling of Terminal-Area Airplane Fuel Consumption
C09-151 Low-Speed Fan Noise Attenuation from a Foam-Metal Liner
C09-123 Analysis of Departure and Arrival Profiles Using Real-Time Aircraft Data

Engine Materials

C09-151 Low-Speed Fan Noise Attenuation from a Foam-Metal Liner

Engine Performance

C09-123 Analysis of Departure and Arrival Profiles Using Real-Time Aircraft Data

Fuel Cells

C09-215 Comparison of Design Methods for Fuel-Cell-Powered Unmanned Aerial Vehicles

Gas Turbine Engines

C09-074 Performance, Usage, and Turbofan Transient Simulation Comparisons Between Three Commercial Simulation Tools

Micro Propulsion and Power

C09-047 Propulsive Force of a Flexible Flapping Thin Airfoil

Ramjets and Scramjets

C09-129 Catastrophe Model for Supersonic Inlet Start/Unstart
Turbomachinery
C09-151 Low-Speed Fan Noise Attenuation from a Foam-Metal Liner

REAL-TIME SYSTEMS

Sensor Systems

C09-154 Development of an Onboard Doppler Lidar for Flight Safety

Systems of Systems

C09-150 Simulation Framework for Aircraft Power System Architecting

STRUCTURAL MECHANICS AND MATERIALS

Aeroelasticity and Control

C09-141 Lagwise Loads Analysis of a Rotor Blade with an Embedded Chordwise Absorber
C09-130 Active Control of Vertical Tail Buffeting by Piezoelectric Actuators
C09-072 Smart Spring Control of Vibration on Helicopter Rotor Blades
C09-124 Transport Wing Flutter Model Transonic Limit Cycle Oscillation Test
C09-175 Flutter Margins for Multimode Unstable Couplings with Associated Flutter Confidence
C09-200 Flight Dynamics of High Aspect-Ratio Flying Wings: Effect of Large Trim Deformation
C09-098 Thermal Buckling and Flutter Behavior of Shape Memory Alloy Hybrid Composite Shells
C09-238 Aeroelastic Study of Bistable Composite Airfoils
C09-012 High-Altitude Limit Cycle Flutter of Transonic Wings
C09-004 National Transonic Facility Model and Tunnel Vibrations
C09-187 Theoretical Predictions of F-16 Fighter Limit Cycle Oscillations for Flight Flutter Testing
C09-241 Aeroservoelastic Analysis for Transonic Missile Based on Computational Fluid Dynamics
C09-038 H Flutter Analysis: A Direct Harmonic Interpolation Method
C09-024 Optimal Placement of Piezoelectric Actuated Trailing-Edge Flaps for Helicopter Vibration Control
C09-173 Aerothermoacoustic Response of Shape Memory Alloy Hybrid Composite Panels
C09-229 Basis Vector Quantification of Flutter Analysis Structural Modes
C09-225 Improved Flutter Boundary Prediction for an Isolated Two-Degree-of-Freedom Airfoil

Dynamic Model Analysis

C09-170 Elastic Multibody Models of Transport Aircraft High-Lift Mechanisms
C09-037 Analysis of Tethered Aerostat Response Under Atmospheric Turbulence Considering Nonlinear Cable Dynamics
C09-229 Basis Vector Quantification of Flutter Analysis Structural Modes
C09-225 Improved Flutter Boundary Prediction for an Isolated Two-Degree-of-Freedom Airfoil

Flexible and Active Structures

C09-081 Promising Benefits of an Active-Extrados Morphing Laminar Wing
C09-170 Elastic Multibody Models of Transport Aircraft High-Lift Mechanisms
C09-238 Aeroelastic Study of Bistable Composite Airfoils
C09-072 Smart Spring Control of Vibration on Helicopter Rotor Blades

Materials Structural Properties

C09-125 Characterization of Nonsymmetric Forms of Fully Orthotropic Laminates
C09-191 Linear Damage Accumulation for Predicting Fatigue in Fiber Metal Laminates
C09-008 Residual-Strength Assessment of Modified Transport Aircraft Fuselages
C09-174 Fatigue Performance of Nitrided Aircraft Crankshafts

Structural Composite Materials

C09-125 Characterization of Nonsymmetric Forms of Fully Orthotropic Laminates
C09-067 Experimental Investigation of Bistable Winglets to Enhance Aircraft Wing Lift Takeoff Capability
C09-061 Supersonic Flutter of Functionally Grated Panels Subject to Acoustic and Thermal Loads
C09-149 Composite Materials Strength Determination Within the Current Certification Methodology for Aircraft Structures
C09-231 Design and Testing of a Fiber-Metal-Laminate Bird-Strike-Resistant Leading Edge
C09-238 Aeroelastic Study of Bistable Composite Airfoils
C09-020 Strain-Energy Release Rate Analysis of Adhesive-Bonded Composite Joints with Prescribed Interlaminar Crack
C09-090 Structural Analysis and Testing of an Ultralight Unmanned-Aerial-Vehicle Carbon-Composite Wing
C09-083 Review of Smoke Toxicity of Fiber-Polymer Composites Used in Aircraft
C09-173 Aerothermoacoustic Response of Shape Memory Alloy Hybrid Composite Panels
C09-166 Effects of In-Plane Shear Loads on Transverse Shear Deformations in Composite Panels
C09-191 Linear Damage Accumulation for Predicting Fatigue in Fiber Metal Laminates

Structural Design

C09-174 Fatigue Performance of Nitrided Aircraft Crankshafts
C09-091 Nonlinear Dynamic Response Structural Optimization of a Joined-Wing Using Equivalent Static Loads
C09-223 Fast Tool for Buckling Analysis and Optimization of Stiffened Panels
C09-008 Residual-Strength Assessment of Modified Transport Aircraft Fuselages
C09-020 Strain-Energy Release Rate Analysis of Adhesive-Bonded Composite Joints with Prescribed Interlaminar Crack

Structural Durability (Including Fatigue, Fracture, and Environmental Degradation)

C09-174 Fatigue Performance of Nitrided Aircraft Crankshafts
C09-172 Fatigue Life Estimation of Helicopter Landing Probe Based on Dynamic Simulation
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